- a frequency baseband containing the transmitted signals is generated by adding an intermediate frequency to the first signal frequency band and by demodulating the first signal frequency band, and
- at least one second signal frequency band containing the transmitted signals is filtered out of the frequency baseband by post-filtering,

in which the carrier frequency and/or the intermediate frequency are matched to one or more filter parameters during the post-filtering in such a manner that the desired subfrequency band is available as second frequency band, in which the information contained in the second signal frequency band is digitized, in which a part of the post-filtering is performed as fine filtering on the digitized information in order to obtain the transmitted signals in digital form, and in which the digital part of the post-filtering is also matched to the carrier frequency and/or the intermediate frequency.

17. The method as claimed in claim 1, in which during the post-filtering, a low-pass filter (8) or a high-pass filter or a high-pass/low-pass filter combination is used, the cut-off frequency of which or the cut-off frequencies of which are matched to the carrier frequency and/or the intermediate frequency in such a manner that the cut-off frequency or the cut-off frequencies, respectively, separate the desired subfrequency band from all neighboring frequency bands which may still be present in the frequency baseband.

18. The method as claimed in claim 1, in which the second signal frequency band is amplified after the post-filtering has been performed at least partially.

19. The method as claimed in claim 1, in which the carrier frequency for the prefiltering is set in such a manner that one or more neighboring frequency bands of the desired subfrequency band are already split off during prefiltering.

20. The method as claimed in claim 1, in which the first signal frequency band present in analog form is first digitized and the frequency baseband is generated by digital demodulation.

21. The method as claimed in claim 1, in which, after the generation of the frequency baseband, a high-pass filtering or a combination of high-pass and low-pass filtering is performed in order to filter out at least one subfrequency band which is either in the positive or in the negative frequency range of the frequency baseband, and in which the subfrequency band filtered out is digitized and is transposed by digital conversion into a frequency range which contains the zero frequency value.

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22. A receiver for receiving transmitted signals which can be transmitted to the receiver in various subfrequency bands (a, b, c, d) of a receive frequency band, comprising

- a first oscillator (15) for inserting a carrier frequency into a receive path of the receive frequency band,
- a prefilter (4) which is arranged in the receive path in order to filter a first signal frequency band containing the transmitted signals out of the receive frequency band with the inserted carrier frequency,
- a second oscillator (16) for inserting an intermediate frequency into a first signal path of the first signal frequency band,
- a demodulator (7) which is arranged in the first signal path in order to demodulate the signal frequency band with the inserted intermediate frequency and to generate a frequency baseband which contains the transmitted signals, and
- a post-filter (8) which is arranged in a base path of the frequency baseband in order to filter a second signal frequency band containing the transmitted signals out of the frequency baseband,

in which a common frequency and post-filter control (18) of the post-filter (8) and of the first oscillator (15) and/or the second oscillator (16) is provided in order to match the carrier frequency and/or the intermediate frequency to one or more filter parameters of the post-filter (8) in such a manner that the desired subfrequency band is available as second signal frequency band, in which a second signal band amplifier (9, 10) for amplifying the second signal frequency band is arranged after the post-filter or, respectively, after the first part (8) of the post-filter in a second signal path of the second signal frequency band in the direction of signal propagation, in which an analog/digital converter (11) is provided in the second signal path in order to digitize

the information present in the second signal frequency band, in which a digital filter (12) is provided behind the analog/digital converter (11) in the direction of signal propagation in order to filter the transmitted signals out of the digitized information and in which the digital filter (12) can also be driven by the common frequency and post-filter control.

23. The receiver as claimed in claim 7, in which the post-filter (8) exhibits a low-pass filter or a high-pass filter or a high-pass/low-pass filter combination, the cut-off frequency and/or cut-off frequencies of which can be matched to the carrier frequency and/or the intermediate frequency in such a manner that the cut-off frequency or cut-off frequencies separate the desired subfrequency band from all neighboring frequency bands which may still be present in the frequency baseband.

24. The receiver as claimed in claim 8, in which the second signal band amplifier (9, 10) and at least a part (8) of the post-filter are arranged in a common integrated circuit.

25. The receiver as claimed in claim 8, in which the second signal path exhibits a bypass (14) for unamplified forwarding of the second signal frequency band, which is connected in parallel with the second signal band amplifier (9, 10).

26. The receiver as claimed in claim 7, in which the demodulator (7) and at least a part (8) of the post-filter are arranged in a common integrated circuit.

27. The receiver as claimed in claim 7, in which an analog/digital converter is arranged behind the prefilter and in front of the demodulator in the direction of signal propagation and in which the demodulator and the post-filter are constructed for digital signal processing.--